

Amendments to the Claims

1-4. (Canceled)

5. (Currently amended) ~~Apparatus of claim 2,~~ Apparatus, comprising:
a needle hub having a longitudinal axis and a needle extending from one of its ends;
a collar rotatably mounted about said needle hub;
a needle sheath removably attached to said collar for covering said needle
extending from said needle hub prior to its use; and
a housing connected to said collar and pivotable to a position substantially in
alignment along said longitudinal axis of said needle hub for covering said needle after said
needle sheath is removed from said collar;

wherein said housing has a longitudinal opening formed by first and second lips each extending along substantially the length of said housing, said first lip overlapping a portion of said second lip with said opening being off centered from said longitudinal axis, each of said lips being angled toward the interior of said housing with the respective angles of said lips being varied along the length of said housing to effect a guide for said needle to smoothly enter into said housing at an angle through said opening when said housing is pivoted to cover said needle, said needle not removable from said housing once said needle fully enters into said housing.

6-10. (Canceled)

11. (Original) Needle protection apparatus, comprising a collar having pivotally attached thereto a housing, said housing having a longitudinal opening formed by first and second lips each extending substantially along the length of said housing, said first lip overlapping a portion of said second lip with said opening being off centered, each of said lips being angled toward the interior of said housing with the respective angles of each of said lips being varied along the length of said housing, said collar rotatably mounted about a needle hub having a needle extending therefrom, wherein when said housing is pivotally moved

relative to said collar to cover said needle, said needle is guided by said lips to smoothly enter into said housing, said needle not removable from said housing once said needle has fully entered into said housing.

12. (Original) Needle protection apparatus of claim 11, wherein said collar comprises a proximal portion and a distal portion, a plurality of protrusions formed at the interior surface of said proximal portion of said collar for fitting within a space defined by spaced flanges extending transversely from a proximal portion of said needle hub, said collar rotatable about said needle hub when said protrusions are fitted within said space, said collar further comprising a plurality of fingers at said distal portion of its interior surface to engage a rim at the open end of a needle sheath removably coupled to said collar to cover said needle prior to use, said needle sheath being removable from said collar when said needle is to be used.

13. (Original) Needle protection apparatus of claim 11, wherein said collar has formed at its outer surface at least two catch members and wherein said housing has formed at its proximal end at least two corresponding apertures, said catch members matingly coupled to said apertures to fixedly retain said housing to said collar once said housing is pivoted to cover said needle.

14-16. (Canceled)

17. (Currently amended) In combination, a needle hub having a proximal portion and a distal portion, at least one set of arms extending from the distal portion of said needle hub with each pair of adjacent arms forming a slot, a needle extending from said distal portion of said hub along a longitudinal axis of said hub, a collar rotatably mounted about said needle hub, said collar having at the inner surface of its distal portion at least one retainer, a sheath having at least one internal spline fittable to a slot of a pair of adjacent arms, an open end and a rim formed circumferentially proximate to the open end at its outer surface, said sheath being removably connected to said collar by the non-permanent

holding of the rim by the retainer for removably retaining a needle sheath attached to said collar for covering said needle prior to its use, a housing having an off centered longitudinal opening connected to said collar and pivotable to a position substantially in alignment along said longitudinal axis for covering said needle after removal of said needle sheath from said collar.

18. (Currently amended) Combination of claim 17, wherein said needle hub comprises flange means provided at said proximal portion for retaining said collar ~~and a slot provided at said distal portion, said needle sheath having at least one internal spline that fits, and wherein when said sheath is connected to said collar, the spline of said needle sheath is fitted~~ into said slot so that said needle hub may be threadingly coupled to a luer of a syringe by rotating said needle sheath.

19. (Original) Combination of claim 18, wherein said needle hub further comprises a catch provided at said distal portion, said housing having an internal spline that coacts against said catch after said housing has been pivoted to cover said needle so that said needle hub is rotated in synchronization with the rotation of said housing, said needle hub removable from a luer end of a syringe to which it is coupled by rotating said housing.

20. (Original) Combination of claim 18, wherein said flange means comprises two sets of spaced apart flanges on the proximal portion of said needle hub, and wherein said collar has at the inner surface of its proximal portion a plurality of protrusions, said protrusions fitting between said spaced apart flanges when said collar is fitted about said needle hub, said collar rotatable about said needle hub.

21. (Original) Combination of claim 17, wherein said opening along said housing is formed by first and second lips each extending substantially along the length of said housing, said first lip overlapping a portion of said second lip with said opening being off centered, each of said lips being angled toward the interior of said housing with the respective angles of said lips being varied along the length of said housing, wherein when

said housing is pivotally moved relative to said collar to cover said needle, said needle is guided by said lips to smoothly enter into said housing, said needle not removable from said housing once said needle has fully entered into said housing.

22. (Original) Combination of claim 17, wherein said collar has formed at its outer surface at least two catch members and wherein said housing has formed at its proximal end at least two corresponding apertures, said catch members matingly coupled to said apertures to fixedly retain said housing to said collar when said housing is pivoted to said longitudinal axis to cover said needle.

23-27. (Canceled)

28. (Currently amended) ~~Method of claim 24,~~ A method of making a medical needle assembly, comprising the steps of:

- a) providing a needle hub having a proximal portion and a distal portion;
- b) extending a needle from said distal portion of said hub;
- c) rotatably mounting a collar about said needle hub, said collar having at the inner surface of its distal end at least one retainer; and
- d) attaching a needle sheath to said collar for covering said needle prior to its use,
said needle sheath being retained by said retainer;

wherein the effecting step further comprising the steps of:

effecting along substantially the length of said housing first and second lips for forming said longitudinal opening ;

overlapping a portion of said first lip over said second lip to effect said off centered opening; and

angling each of said lips toward the interior of said housing with the respective angles of said lips being varied along the length of said housing to enable said lips to smoothly guide said needle through said opening into said housing when said housing is pivoted to cover said needle, said needle not removable from said housing once said needle fully enters into said housing.

29. (New) Apparatus, comprising:

a needle hub having a longitudinal axis and a needle extending from one of its ends, said needle hub including a proximal portion and a distal portion, first set of flanges extending transversely from the proximal portion, and at least first and second sets of arms extending transversely from the distal portion;

a collar rotatably mounted about said needle hub; and

a needle sheath having one internal spline formed at its inner surface removably attached to said collar for covering said needle extending from said needle hub prior to its use, said one spline fitted to a slot formed by said first set of arms so that said hub is rotatable in the same direction in unison with said sheath when said sheath is attached to said hub.

30. (New) Apparatus of claim 29, further comprising:

a housing connected to said collar and pivotable to a position substantially in alignment along the longitudinal axis of said needle hub for covering said needle after said needle sheath has been removed from said collar, said housing having other internal spline positioned between adjacent arms of the second set of arms, the second set arms acting as stops for said other spline so that said hub is rotatable in unison with said housing in the same direction after said housing is pivoted to the alignment position.

31. (New) Apparatus of claim 29, wherein said sheath has an open end and a rim formed circumferentially proximate to the open end of said sheath, and wherein said collar has a distal end having retainers thereat, the rim being held by the retainers when said sheath is connected to said collar.

32. (New) Apparatus of claim 29, wherein said proximal portion of said needle hub has a luer end for mating to a syringe and said distal portion of said needle hub has said needle extending therefrom.

33. (New) Apparatus of claim 29, wherein said collar comprises a proximal portion having at least one protrusion at its interior surface and wherein said hub comprises a space formed by spaced flanges extending transversely from its proximal portion, said collar rotatably mounted about said needle hub with said protrusion fitted within said space.

34. (New) Apparatus of claim 30, wherein said collar has formed at its outer surface a first lock mechanism and wherein said housing has formed at its proximal end a second lock mechanism, said first and second lock mechanisms coacting to fixedly retain said housing to said collar once said housing is pivoted to said position to cover said needle.

35. (New) Apparatus of claim 34, wherein said first lock mechanism comprises at least one one way catch member extending from the outer surface of said collar, and said second lock mechanism comprises at least one corresponding aperture at said housing, said one way catch member matingly coupled to said aperture for fixedly retaining said housing to said collar when said housing is pivoted to cover said needle.

36. (New) A needle hub comprising a proximal portion and a distal portion, first plurality and second plurality of flanges transversely extending circumferentially from said proximal portion, said first and second plurality of flanges being spaced apart to define a circumferential space at said proximal portion of said needle hub whereat a collar is rotatably mounted about, at least a first set of arms extending transversely from the distal portion of said needle hub for forming at least one slot for accepting a spline formed at the internal surface of a needle sheath when said sheath is coupled to said collar for covering a needle extending from said needle hub prior to use, and a second set of arms extending transversely from the distal portion of said needle hub to catch a spline formed at the internal surface of a housing pivotally connected to said collar after said sheath has been removed from said collar and said housing has been positioned to cover the needle.

37. (New) Needle hub of claim 36, wherein the side of each flange of one of said first and second plurality of flanges to which said collar is press fitted against for mounting to

said needle hub is beveled to ease the fitting of said collar to said needle hub, said collar being retained at but rotatable about the space defined by said first and second plurality of flanges once it is press fitted past the beveled flanges.

38. (New) Needle hub of claim 36, wherein said needle hub comprises a luer end at its proximal portion for mating to a syringe.

39. (New) A method of making a medical needle assembly, comprising the steps of:

a) providing a needle hub with a proximal portion and a distal portion, sets of flanges extending transversely from the proximal portion and first and second sets of arms extending transversely from the distal portion, adjacent pairs of at least one set of said arms forming respective slots;

b) extending a needle from the distal portion of said hub;

c) rotatably mounting a collar about said needle hub between said sets of flanges, said collar having at its distal end at least one retainer; and

d) attaching a needle sheath to the distal end of said collar for covering said needle prior to its use, said needle sheath having an internal spline and a circumferential rim proximate to its opening, said rim being non-permanently held by said retainer at said hub when said sheath is mated to said collar so that said sheath is removably connected to said collar.

40. (New) Method of claim 39, wherein the spline of said sheath fits into one of the slots formed by said at least one set of arms so that said hub is rotatable in the same direction in unison with said sheath when said sheath is attached to said hub, whereby said hub is connectable to and removable from a syringe by rotating said sheath.

41. (New) Method of claim 39, further comprising the steps of:

connecting a housing to said collar; and

effecting an off centered longitudinal opening substantially along the length of said housing, said housing pivotable to a position substantially in alignment along the

longitudinal axis of said needle hub for covering said needle after removal of said needle sheath from said collar.

42. (New) Method of claim 39, wherein said step a comprises the steps of:
spacing said sets of flanges apart from each other along the length of said proximal portion;

beveling the side of each of the set of flanges to which said collar is to be press fitted against for easing the fitting of said collar onto said needle hub; and

extending at least one arm transversely from the distal portion of said needle hub to act as a catch for an internal spline of a housing pivotable from said collar to cover said needle so that said hub is rotatable in response to the rotation of said housing after said needle is covered by said housing.

43. (New) Method of claim 39, further comprising the steps of:

forming a plurality of protrusions at the interior surface of the proximal portion of said collar; and

forming a plurality of retainers at the interior surface of the distal portion of said collar;

wherein said step c further comprises the step of:

press fitting said collar to said needle hub by fitting said protrusions to a space defined between said sets of flanges extending transversely from said needle hub, said collar rotatable about said needle hub when said protrusions are fitted about said space.

44. (New) Method of claim 39, further comprising the steps of:

forming at the outer surface of said collar at least one catch member; and

forming at a proximal end of said housing at least one corresponding aperture;

wherein said catch member matingly couples to said aperture to fixedly retain said housing to said collar when said housing is pivoted to said longitudinal axis to cover said needle.